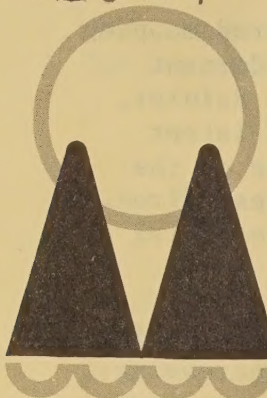


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RESPONSE

A Report on Actions for A Better Environment

NO. 2

MARCH 1971

UNITED STATES DEPARTMENT OF AGRICULTURE • OFFICE OF INFORMATION • WASHINGTON, D.C. 20250

RESPONSE is a periodic report from the United States Department of Agriculture on USDA's many areas of action to remedy environmental problems. Department programs protect and improve the environment through research, forestry, conservation and a wide range of rural and community services.

KEEPING UP WITH THE PESTICIDE SCENE

"The Pesticide Review 1970" is a statistical, technical report on the production and distribution of pesticides. Although published in February of this year, 1969 is the most recent year reported because of the time required in gathering its 46 pages of data. However, what should be just a routine addition to a reference library is something more. Essentially it is a "What's Happening In Pesticides" report with considerable attention to pesticide developments in relation to the environment and the progress being made in developing less hazardous controls. Readers who are not on the regular mailing and have a particular interest in this area may request single copies from limited remaining stocks by writing to the DDO Division, Agricultural Stabilization and Conservation Service, Room 4405-H, Auditors Building, U. S. Department of Agriculture, Washington, D.C. 20250.

COMPUTER TO SPEED KNOWLEDGE OF INCOMING PEST INTERCEPTS

The first computerized version of the annual List of Intercepted Plant Pests (ARS 82-6-4) is now available. It notes that 11,658 significant pest interceptions were made in 1969. Use of the computer will advance this and other statistics in future editions of the List to within a few months of publication. Stopping dangerous insects, mites, mollusks, disease carrying plant or animal materials and nematodes at points of entry protects our crops, forests and animals from devastating outbreaks of imported pests.

SNOW SURVEY SHOWS GOOD WATER SUPPLY IN WEST

Snowpack--or the rain and snowfall during winter months--provides about 70 percent of annual western water supplies in 12 Western States. February Soil Conservation Service surveys indicate excellent water supplies this year from the numerous watersheds of the Cascade and Sierra Nevada mountains, as well as in Idaho, Utah, Wyoming, northern Colorado, and southwestern Montana.

SCANNER MAPS OUR DORMANT VOLCANOES

In recent months the Forest Service air-borne infrared mapping unit has been flying thermal-mapping missions over dormant volcanoes and lakes in the Northwest, including Mt. Rainier, Crater Lake, and Mt. Baker. The result is a map of latent geothermal activity in these areas. The primary use of the infrared scanner is the mapping of hot spots in forest fires. Now scientists feel the scanner has an even wider potential use in environmental studies.

ENTOMOLOGY -- GETTING TO KNOW WHO

New laws governing pest management, restrictions as to choice and use of pesticides, prescription programs, and increasing pressure to permit only qualified individuals to engage in certain pest control programs were the reasons given by the Entomological Society of America in establishing an American Registry of Certified Entomologists. The Registry, 10-years in the making, identifies specialists with the training and technical ability to advise the public on matters pertaining to man and his environment. It provides a continuing registry of those engaged in sales of pesticides, those who are pest control advisors, or who render special services including identification, consultation, marketing of biotic agents, and others who are trained and competent in some related professional specialty.

OUTLOOK CONFERENCE HOLDS ENVIRONMENTAL SESSION

Environmental quality was a leading theme of this year's Outlook Conference held in USDA and attended by agricultural economists, scientists and other thinkers from across the country. Session subtopics included: progress and problems of maintaining quality of the agricultural environment; a discussion of alternatives to the phosphate detergents; and an outline of work being done by Food and Drug Administration to monitor the quality of our food supply with special emphasis on pesticide residues and food additives.

NEW LEADS IN SEARCH FOR SAFE CONTROL OF AQUATIC WEEDS

Aquatic weeds obstruct water flow, cause large losses of water through transpiration, prevent proper land drainage and present hazards to human health. Losses annually run to tens of millions of dollars. The search of environmentally safe controls, a 3-year study by Department scientists, showed herbicides diquat and paraquat to control three aquatic weeds. Though harmless to fish, each chemical provides excellent control of southern naiad, marine naiad, and widge-ongrass. Applied at 1 part per million by weight only temporary changes in beneficial water organisms and chemistry were noted. Meanwhile, USDA research was initiated on an Asian fish, the white amur, a voracious vegetarian. The amur shows great promise for biological control of aquatic weeds. A flea beetle from Argentina already controls the allegator weed in some locations in the Southeastern States. Further studies are being made of other insects for control of this weed and the water hyacinth.

1971--YEAR OF
THE GRASSHOPPER?

Nearly 8 million acres of rangeland were found infested by grasshoppers in 15 of 20 Western and Midwestern States in a survey by USDA and cooperating States. Less than 7 million acres were infested a year earlier. A spring survey will yield more data. Ranchers are encouraged to treat small infested areas before the grasshoppers leave their breeding grounds.

WASTE WATER MAY
BE A RESOURCE
TO FARMS AND
CITIES

Effluent from urban centers can become an important water source according to Dr. James C. Lance, scientist with the Agricultural Research Service. After conventional treatment, it can be used for irrigation of crops not directly consumed by humans. Secondary effluent can be given additional treatment to permit irrigation of vegetables, parks and golf courses as well as industrial, recreational, and municipal purposes. How? Soil filtration--the application of effluent to land with basins, furrows, or sprinklers, and the pumping of the reclaimed water as ground water at some distance from the infiltration areas. Such a ground-water recharge system of 1,000 acres Lance predicts could handle in the year 2000 all the secondary effluent from Phoenix, Arizona, and adjacent cities.

PROTECTED
NATURAL AREAS
EXPANDED

Natural areas--areas especially set aside as field laboratories for plant scientists to study ecology, plant succession and other aspects of the natural environment--now total 87,895 acres in National Forests and National Grasslands in 29 States and Puerto Rico. Ecosystems are preserved in a natural state within their boundaries for comparison with systems influenced by man. They are gene pools, preserving rare and endangered species of plants and animals and include Arctic tundra, desert shrub areas, prairie grasslands and many tree and shrub communities. Latest addition and number 85 among these protected lands is the Frenzel Creek Research Natural Area in Mondocino National Forest in northern California. Its protection preserves two rare species of coniferous trees, the Sargent Cypress and MacNab Cypress, as well as rare herbs. The 830-acre Frenzel Creek area is the 14th area to be added to the program in the last 6 years. A score of other candidate areas are being studied for inclusion in the system.

RECORD PROGRESS
IN CONTROL OF
SCREWORM

Early in the 1960's estimated cattle losses from the screwworm in the Southwest ranged widely from \$25 million to \$100 million annually. To meet this challenge in 1962 one of the most successful (environmentally safe) biological control campaigns got underway and screwworm infestations dwindled drastically. The control involved the release of sterile male screwworm flies over infested areas to mate with female flies who mate only once. Thanks to this technique, only 153 screwworm cases were reported in the Southwest last year, a record in the decline of this cruel cattle pest that ten years ago threatened livestock throughout the South.

BIOLOGICAL
CONTROLS A
BOON TO
CITRUS

Biological controls are making substantial inroads against citrus pests. In one instance the citrus rust mite, Florida's number one citrus pest and a world threat to citrus grown in humid climates, is in for tough times from the fungus *Hirsutella thompsonii*, discovered by scientists of the Agricultural Research Service. After spraying, the mycelia of the fungus produce spores which infect the mites, killing them within 72 hours. It protects a crop up to 12 weeks, an improvement to the 6 week control of present measures. Equally important, a simple and economical new means of application will help Florida growers to reduce the \$5 million now spent annually in controlling the citrus rust mite. Further tests of *H. thompsonii* are to be made. A lesser but potentially devastating pest, the fiddler beetle or vaquita which attacks the leaves and roots of citrus also may be confined by a natural enemy, this one imported from Puerto Rico by ARS entomologists. A tiny parasitic wasp barely larger than a pinhead, it lays its eggs on the host eggs of the fiddler, putting, as one observer noted, an end to the fiddler on the root. Biological agents such as these may ultimately replace or at least supplement conventional pesticides, thereby reducing environmental pollution.

EXTENSION
HELP FOR
WILDLIFE

Twenty-six State Extension Services now are devoting the equivalent of 44 man years of time to improving the habitat and management programs for fish and wildlife. Primarily, Extension efforts are aimed at animal damage control, fish-pond management, fish farming, and other income producing wildlife enterprises. Meanwhile, the Extension Service, at USDA recently released six slide sets on wildlife: "Hunt Safely," "Some Game Birds of North America," "Some Snakes of the United States," "Making Plaster Casts of Animal Tracks," "Wildlife for All," and "The 4-H Wildlife Project and Demonstration." All are available from the Office of Information, U.S. Department of Agriculture, Washington, D.C. 20250. The slide sets cost \$11 each. The same sets are available in filmstrips at a cost of \$5.50 each. Filmstrips may be ordered from Photo Lab Inc., 3825 Georgia Avenue, N.W., Washington, D. C. 20011.

SEWAGE
RESEARCH IN
INDIA FUNDED

Indian biochemists at the University of Baroda are to experiment in photosynthetic oxygenation of sewage purification thanks to a P.L. 480 grant supporting the 3-year project.